2019-09-03

Sleep Beauties in Mathematical Research

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Sleeping beauty publications are over represented in the mathematics research literature, particularly when highly cited publications are considered.

Sleep Beauties in Mathematical Research

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INTRO

- Sleeping Beauties (SBs) are publications which receive large spikes in citations after years of relatively few

METHODS

1. Dataset: Clarivate Web of Science 1900-2017 [1]
2. All publications with subjects of Mathematics, Mathematics, Applied, and Mathematics, Interdisciplinary Applications were included
3. Sleeping Beauties identified using Ke, Ferrara, Radicchi, & Flammini's [2] Beauty Coeffcient, using a threshold value of 90.62
4. Threshold values were set by Ke et al. so that top .1% of all Beauty Coefficients were classified as SBs.

RESULTS

Subject	Total	SBs	Rate
Mathematics	742541	3044	.41%
Applied	611160	743	.12%
Interdisciplinary Applications	199652	324	.16%
Total	1343970	3847	.29%

SB Counts for all mathematical publications

Subject	Total	SBs	Rate
Mathematics	6485	938	14.5%
Applied	6635	342	5.2%
Interdisciplinary Applications	3995	174	4.3%
Total	15745	1354	8.6%

SB Counts for Highly Cited (>100) publications

Notes

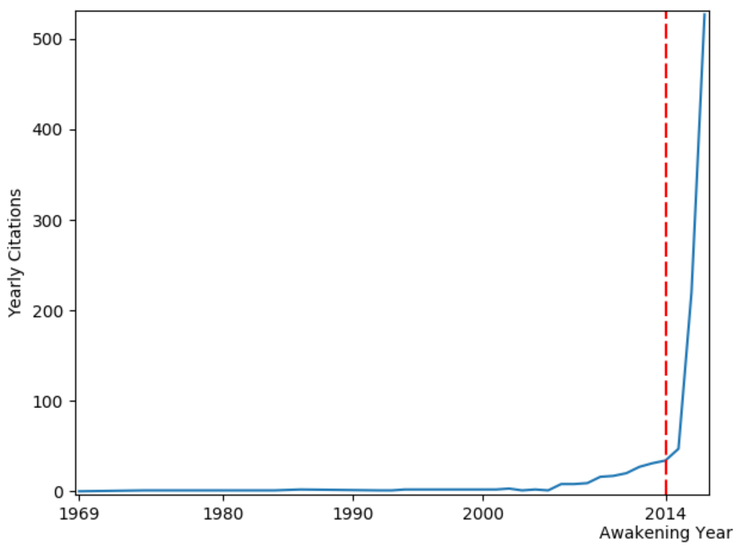
[1] I would like to acknowledge the Big Ten Academic Alliance and CADRE for their help in providing and operationalizing the data

[2] Ke, Q., Ferrara, E., Radicchi, F., & Flammini, A. (2015). Defining and identifying sleeping beauties in science. *Proceedings of the National Academy of Sciences*, *112*(24), 7426-7431.

New High Coefficient Sleeping Beauty Publication Identified!

3rd Highest Coefficient ever seen, 6737.399

Granger, C. W. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica*



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